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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,070	12/13/2000	George C. Crane	000774-0002-101	7720
1473 7590 11/10/2010 ROPES & GRAY LLP PATENT DOCKETING 39/361 1211 AVENUE OF THE AMERICAS NEW YORK, NY 10036-8704				
EXAMINER				
TINKLER, MURIEL S				
ART UNIT		PAPER NUMBER		
3691				
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11/10/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

09/736,070

**Applicant(s)**

CRANE, GEORGE C.

**Examiner**

MURIEL TINKLER

**Art Unit**

3691

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14, 17-23, 25-30, 33-43, 46-49, 52, 53, 56, 57 and 60-73 is/are pending in the application.
- 4a) Of the above claim(s) 60-73 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 17-23, 25-30, 33-43, 46-49, 52, 53, 56 and 57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This office action is in response to Applicant's response filed May 1, 2008. The amendments have been entered and Applicant's arguments have been fully considered. Claim 24 has been cancelled. Claims 1-14, 17-23, 25-30, 33-43, 46-49, 52, 53, 56, 57 and 60-73 are currently pending. Claims 60-73 are currently withdrawn from consideration. Therefore, claims 1-14, 17-23, 25-30, 33-43, 46-49, 52, 53, 56 and 57 are currently pending and have been rejected. The rejections are as stated below.

### ***Response to Arguments***

1. Applicant's arguments, see page 25, filed August 17, 2010, with respect to the claim objections of claims 22, 35, 48, 52 and 56 have been fully considered and are persuasive. The claim objections of claims 22, 35, 48, 52 and 56 have been withdrawn.
2. Applicant's arguments, see pages 25-27, filed August 17, 2010, with respect to 35 USC 112, first paragraph rejection have been fully considered and are persuasive. The 35 USC 112, first paragraph rejections of claims 4-6, 8, 9, 18, 48, 52 and 56 has been withdrawn.
3. Applicant's arguments, see pages 27-30, filed August 17, 2010, with respect to the 35 USC 112, second paragraph rejection have been fully considered and are persuasive. The 35 USC 112, second paragraph rejection of claims 4-10, 17-20, 25-27, 34, 38-40 and 47 has been withdrawn.
4. Applicant's arguments, see pages 31-33, filed August 17, 2010, with respect to the 35 USC 101 Rejections have been fully considered and are persuasive. The 35

USC 101 Rejections of claims 1-14, 17-23, 25-30, 33, 34, 48, 49, 52 and 56 has been withdrawn.

5. Applicant's arguments, see pages 34-35, filed August 17, 2010, regarding the 35 USC 103 Rejections have been fully considered but they are not persuasive. The Applicant argues: that Pilipovic teaches Brownian motion in the Background section only; that Brownian motion is not random at all; the prior art teaches away from using Brownian motion; and, that any processor from the prior art would perform the functions stated in the claims.

6. Regarding the argument that that Pilipovic teaches Brownian motion in the Background section only, the applicant cites this as irrelevant. What is important here is that **the Applicant acknowledges that Pilipovic does teach** Brownian motion in the context of this invention (as modeling price data). And, Pilipovic teaches the modeling of price data after Brownian motion as old and well known in the art (also acknowledged by the Applicant).

7. Regarding the argument that that Brownian motion is not random at all, the Examiner disagrees. The Examiner has attached a paper from the Morters et al. at the University of California at Berkley, entitled "Brownian Motion". Throughout the paper, there lists several hundred citations of the randomness of Brownian motion.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-14, 17-2-30, 33-43, 46-49, 52, 53, 56, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art, in view of Pilipovic, U.S. Patent No. 6,456,982.

Claims 1-14, 17-21, 48, 49, According to Applicant's specification, the concept of Brownian motion provides a formula which describes the movement of a particle which is moving erratically or haphazardly. According to the description, a particle which takes time  $\Delta t$  to move about a radius  $r$ , can be expected to take  $4\Delta t$  to cover the radius  $2r$ .

Based on this description, one can determine if a particle is following Brownian motion by taking the movement of a particle ( $r_1$ ) during a first time ( $\Delta t$ ), taking a second movement of a particle ( $r_2$ ) during a second time ( $4\Delta t$ ), and seeing if  $2*r_1 = r_2$ , as prescribed by the disclosed Brownian motion formula. The exercise is a direct application of the formula. Of course, in the event  $2*r_1 = r_2$ , as prescribed, it would be obvious to conclude that the particle follows Brownian motion, and the movements are erratic or haphazard.

Therefore, Applicant's admitted prior art teaches beginning at a first initial moment, acquiring data during a first duration, and determining a first range of said data during said first duration; comparing said first range of data during the first initial range to data expected based on Brownian motion during said initial first duration; and when said first range of said data during said initial first duration equals said range of said data expected, based on Brownian motion, during said initial first duration, concluding that the system is varying erratically. Examiner notes that since the claim is directed towards a method, only one of the three "when said first range" scenarios would be possible when practicing the claimed method, and therefore the situations are mutually exclusive, and only one of the three need be accomplished in order to practice the claimed method.

Applicant fails to teach the data representing price in a financial system.

Pilipovic teaches financial price data is typically considered to follow Brownian motion (column 2, lines 16-29), and using simulations to predict future prices (column 2

lines 10-15). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Applicant to include applying the known concepts of Brownian motion to financial prices, because Pilipovic teaches this very application.

Claims 22-30, 33-34, 52, 53, In addition to the teachings as detailed above, Pilipovic teaches an apparatus comprising a means for acquiring the data during different time periods, means for comparing the data with calculated values, and means for concluding something about the system (column 7, lines 50-62, column 10 lines 35-59, and claim 41).

Claims 35-43, 46, 47, 56, 57, The claims are rejected for substantially the same reasons as claims 22-30, 33-34, 52, 53, above. Examiner further notes that since the claim language recites "a data feed for..." and, "a processor for..." Accordingly, any processor which is capable of performing the intended use recited by Applicant would be considered to read on the claimed invention. The way in which applicant uses the processor, as claimed, does not make the processor patentable. The processor must be claimed as being programmed to accomplish a specific function in order to impart the functionality as a feature of the processor.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MURIEL TINKLER whose telephone number is (571)272-7976. The examiner can normally be reached on Monday through Friday from 6:30 AM until 3 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Kalinowski can be reached on (571)272-6771. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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